

WHAT IS CLAIMED IS:

1. A radio communication system comprising:

a radio reception unit for receiving a radio signal, extracting a characteristic of the received radio signal, and converting the received radio signal into a reception signal; and

a reception signal processing unit for converting the reception signal into reception data on the basis of the extracted characteristic of the radio signal.

2. The system according to claim 1, wherein the radio reception unit comprises a receiver for receiving the radio signal, a radio signal characteristic extractor for extracting the characteristic of the received radio signal, and a reception radio signal converter for converting the received radio signal into the reception signal, and

the reception signal processing unit comprises a demodulator for demodulating the reception signal by selecting a demodulation scheme on the basis of the extracted characteristic of the radio signal, a reception communication protocol processing unit for executing a communication protocol process of the demodulated reception signal by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal, and a decoder for decoding the reception signal, that has undergone the communication protocol process, by

selecting a decoding scheme on the basis of the extracted characteristic of the radio signal.

3. The system according to claim 2, wherein the reception radio signal converter converts the received
5 radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

4. The system according to claim 1, further comprising:
10 a transmission signal processing unit for converting transmission data into a transmission signal on the basis of the extracted characteristic of the radio signal; and
a radio transmission unit for converting the
15 transmission signal into a radio signal, and transmitting the converted radio signal.

5. The system according to claim 4, wherein the transmission signal processing unit comprises an encoder for encoding the transmission data by selecting
20 an encoding scheme on the basis of the extracted characteristic of the radio signal, a transmission communication protocol processing unit for executing a communication protocol process of the encoded transmission data by selecting a communication protocol
25 processing scheme on the basis of the extracted characteristic of the radio signal, and a modulator for modulating the transmission data, that has undergone

a reception radio signal converter for converting the received radio signal into the reception signal, and

the reception signal processing unit comprises a demodulator for demodulating the reception signal by
5 selecting a demodulation scheme on the basis of the extracted characteristic of the radio signal, a reception communication protocol processing unit for executing a communication protocol process of the demodulated reception signal by selecting a
10 communication protocol processing scheme on the basis of the extracted characteristic of the radio signal, and a decoder for decoding the reception signal that has undergone the communication protocol process by selecting a decoding scheme on the basis of the
15 extracted characteristic of the radio signal.

9. The apparatus according to claim 8, wherein said reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the
20 extracted characteristic of the radio signal.

10. The apparatus according to claim 7, further comprising:

a transmission signal processing unit for converting transmission data into a transmission signal
25 on the basis of the extracted characteristic of the radio signal; and

a radio transmission unit for converting the

transmission signal into a radio signal, and transmitting the converted radio signal.

11. The apparatus according to claim 10, wherein the transmission signal processing unit comprises an
5 encoder for encoding the transmission data by selecting an encoding scheme on the basis of the extracted characteristic of the radio signal, a transmission communication protocol processing unit for executing a communication protocol process of the encoded
10 transmission data by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal, and a modulator for modulating the transmission data, that has undergone the communication protocol process, by selecting a
15 modulation scheme on the basis of the extracted characteristic of the radio signal, and

the radio transmission unit comprises a transmission radio signal converter for converting the modulated transmission data into a radio signal, and a
20 radio transmitter for transmitting the converted radio signal.

12. The apparatus according to claim 11, wherein said transmission radio signal converter converts the modulated transmission data into the radio signal by
25 selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

13. A semiconductor integrated circuit device for

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a radio communication, comprising:

a receiver for receiving a radio signal;

a radio signal characteristic extractor for
extracting a characteristic of the received radio
5 signal; and

a reception radio signal converter for converting
the received radio signal into a reception signal.

14. The device according to claim 13, wherein the
reception radio signal converter converts the received
10 radio signal into the reception signal by selecting a
conversion scheme on the basis of the extracted
characteristic of the radio signal.

15. The device according to claim 13, further
comprising:

15 a transmission radio signal converter for
converting modulated transmission data into a radio
signal; and

a radio transmitter for transmitting the converted
radio signal.

20 16. The device according to claim 15, wherein the
transmission radio signal converter converts the
modulated transmission data into the radio signal by
selecting a conversion scheme on the basis of the
extracted characteristic of the radio signal.

25 17. A semiconductor integrated circuit device for
a radio communication, comprising:

a demodulator for demodulating a reception signal

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a modulator for modulating the transmission data, that has undergone the communication protocol process, by selecting a modulation scheme on the basis of the extracted characteristic of the radio signal.

19. The device according to claim 18, further

comprising:

a receiver for receiving the radio signal;
a radio signal characteristic extractor for
extracting a characteristic of the received radio
5 signal;

a reception radio signal converter for converting
the received radio signal into the reception signal;

a transmission radio signal converter for
converting the modulated transmission data into a radio
10 signal; and

a radio transmitter for transmitting the converted
radio signal.

20. The device according to claim 19, wherein the
reception radio signal converter converts the received
15 radio signal into the reception signal by selecting a
conversion scheme on the basis of the extracted
characteristic of the radio signal, and

the transmission radio signal converter converts
the modulated transmission data into the radio signal
20 by selecting a conversion scheme on the basis of the
extracted characteristic of the radio signal.

21. A radio communication method comprising the
steps of:

receiving a radio signal;
25 extracting a characteristic of the received radio
signal from the received radio signal;
converting the received radio signal into

a reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal;

5 demodulating the reception signal by selecting a demodulation scheme on the basis of the extracted characteristic of the radio signal;

executing a communication protocol process of the demodulated reception signal by selecting a communication protocol processing scheme on the basis
10 of the extracted characteristic of the radio signal; and

decoding the reception signal, that has undergone the communication protocol process, by selecting a decoding scheme on the basis of the extracted
15 characteristic of the radio signal.

22. The method according to claim 21, further comprising the steps of:

encoding a transmission signal by selecting a conversion scheme on the basis of an extracted
20 characteristic of a radio signal;

executing a communication protocol process of the encoded transmission signal by selecting a communication protocol processing scheme on the basis of the extracted characteristic of the radio signal;

25 modulating the transmission signal, that has undergone the communication protocol process, by selecting a modulation scheme on the basis of the

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transmitting the radio signal.

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24. The system according to claim 23, wherein the radio reception unit comprises a receiver for receiving the radio signal, a radio signal characteristic extractor for extracting a characteristic of the

received radio signal, and a reception radio signal converter for converting the received radio signal into the reception signal,

the reception radio signal converter converts the
5 received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal,

the radio transmission unit comprises a
transmission radio signal converter for converting the
10 modulated transmission data into a radio signal, and a radio transmitter for transmitting the converted radio signal, and

the transmission radio signal converter converts the modulated transmission data into the radio signal
15 by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

25. An electronic apparatus with a radio communication function, comprising:

a radio reception unit for receiving a radio
20 signal, extracting a characteristic of the received radio signal, and converting the received radio signal into a reception signal;

a modem/baseband reception/transmission signal processing unit for executing a reception signal
25 process of the reception signal by selecting a reception signal processing scheme on the basis of the extracted characteristic of the radio signal, and

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converting transmission data into a transmission signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal; and

- 5 a radio transmission unit for converting the transmission signal into a radio signal, and transmitting the converted transmission signal.

26. The apparatus according to claim 25, wherein the radio reception unit comprises a receiver for
10 receiving the radio signal, a radio signal characteristic extractor for extracting a characteristic of the received radio signal, and a reception radio signal converter for converting the received radio signal into the reception signal,
15 the reception radio signal converter converts the received radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal,
 the radio transmission unit comprises a
20 transmission radio signal converter for converting the modulated transmission data into a radio signal, and a radio transmitter for transmitting the converted radio signal, and
 the transmission radio signal converter converts
25 the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

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27. A semiconductor integrated circuit device for a radio communication, comprising:

a demodulator/baseband reception signal processing unit for executing a reception signal process of a reception signal by selecting a reception signal processing scheme on the basis of an extracted characteristic of a radio signal; and

a modulator/baseband reception signal processing unit for executing a transmission signal process of a reception signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal.

28. The device according to claim 27, further comprising:

a receiver for receiving the radio signal;
a radio signal characteristic extractor for extracting a characteristic of the received radio signal;

a reception radio signal converter for converting the received radio signal into the reception signal;

a transmission radio signal converter for converting the modulated transmission data into a radio signal; and

a radio transmitter for transmitting the converted radio signal.

29. The device according to claim 28, wherein the reception radio signal converter converts the received

radio signal into the reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal, and

5 the transmission radio signal converter converts the modulated transmission data into the radio signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal.

30. A radio communication method comprising the steps of:

10 receiving a radio signal;

extracting a characteristic of the received radio signal from the received radio signal;

15 converting the received radio signal into a reception signal by selecting a conversion scheme on the basis of the extracted characteristic of the radio signal;

20 executing a reception signal process of the reception signal by selecting a reception signal processing scheme on the basis of the extracted characteristic of the radio signal;

executing a transmission signal process of the encoded transmission signal by selecting a transmission signal processing scheme on the basis of the extracted characteristic of the radio signal;

25 converting the transmission signal, that has undergone the transmission signal process into a radio signal, by selecting a conversion scheme on the basis

of the extracted characteristic of the radio signal;
and

transmitting the radio signal.

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